

REMARKS

Claims 10-16 are presented for consideration, with Claims 10, 15 and 16 being independent.

Initially, the abstract of the disclosure was objected to for exceeding the 150 word limit. In response to this objection, the abstract has been amended as shown above.

The independent claims have been amended to further distinguish Applicants' invention from the cited art.

Claims 10 and 13-16 stand rejected under 35 U.S.C. §103 as allegedly being obvious over Jaszlics '744 in view of Meisner '299. In addition, Claims 11 and 12 are rejected as allegedly being obvious over those citations and further in view of the Lescinsky publication. These rejections are respectfully traversed.

Claim 10 of Applicants' invention relates to an image processing apparatus for compositing an image of a virtual object and an image of a physical space to generate a mixed reality image and causing an HMD to display the mixed reality image. The apparatus includes a database which holds data used for generating the image of the virtual object, an image capturing unit which is attached to the HMD and captures the image of the physical space, a first measurement unit which measures a position and orientation of the HMD, and an object manipulation unit which is used by a user in order to operate a position and orientation of the virtual object. In addition, a second measurement unit measures a position and orientation of the object manipulation unit, an operation panel is positioned in the physical space, displays an operation panel image used for editing the virtual object, and is capable of receiving a user

instruction of editing the virtual object, and an operation panel image generation unit generates the operation panel image by using the data held in the database and outputs the generated operation panel image to the operation panel. A rendering unit updates the data held in the database according to the user instruction received via the operation panel and the measurement result of the second measurement unit, and renders, by using the updated data, the image of the virtual object according to the measurement results of the first and second measuring units, and a composition unit composites the image of the rendered virtual object and the captured image of the physical space to generate the mixed reality image. Finally, an HMD displays the mixed reality image generated by the composition unit.

In accordance with Claim 10 of Applicants' invention, a high performance image processing apparatus is provided for displaying a mixed reality image.

As discussed in the previous Amendment of December 16, 2008, the patent to Jaszlics relates to a system for combining virtual images with real world scenes. With reference to Figure 2, a range scanner 101 and a virtual masking object generation unit 105 are used to realistically combine the virtual images into real world scenes as part of a computer simulation.

In contrast to Applicants' claimed invention, however, Jaszlics does not teach or suggest a combination of elements that allows for an operation panel to receive and display an operation panel image as set forth in Claim 10. In Claim 10, the second measurement unit measures a position and orientation of the object manipulation unit, which is used in order to operate a position and orientation of the virtual object. The rendering unit updates data held in the database according to user instruction and the measurement result of the second measurement

unit, and this information is used by the operation panel image generating unit to generate the operation panel image and output the same to the operation panel.

Jaszlics includes a operation panel in the form of display A (Figure 16), as well as an object manipulation unit such as a joy stick. In contrast to Applicants' claimed invention, however, Jaszlics does not teach or suggest, among other features, measuring a position and orientation of the object manipulation unit, therefore such information is not provided in a database for use to generate an operation panel image. In this regard, the Office Action asserts that a second measurement unit for measuring a position and orientation of the object manipulation unit is provided in column 11, lines 47-56 of Jaszlics. As understood, however, this disclosure relates merely to an observer's sensors and control signals relating to a position and orientation of the observer and the virtual entity simulation, but not to the joy stick or other manipulation of control devices (see column 11, lines 30-47). It is submitted, therefore, that Jaszlics fails to teach or suggest, among other features, an operation panel and an operation panel image generation unit capable of generating and displaying an operation panel image as set forth in independent Claim 10.

The secondary citation to Meisner relates to a tracker system and was relied on for its teaching of an HMD display device. Meisner fails, however, to compensate for the deficiencies in Jaszlics as discussed above.

Accordingly, without conceding the propriety of combining Jaszlics and Meisner in the manner proposed in the Office Action, such a combination still fails to teach or suggest Applicants' claimed invention.

Claims 14 and 15 relate to an image processing method and a computer readable storage medium, respectively, and correspond to Claim 10. These claims are thus also submitted to be patentable over the art discussed above.

Therefore, reconsideration and withdrawal of the rejection of Claims 10 and 13-16 under 35 U.S.C. §103 is respectfully requested.

The tertiary citation to Lescinsky relates to an interactive scene manipulation and is relied on for its teaching of generating an image based on 3D CAD data. Lescinsky fails, however, to compensate for the deficiencies in Jaszlics and Meisner as discussed above. Accordingly, without conceding the propriety of combining the art in the manner proposed in the Office Action, such a combination still fails to teach or suggest Applicants' claimed invention. Therefore, reconsideration and withdrawal of the rejection of Claims 11 and 12 under 35 U.S.C. §103 is respectfully requested.

Thus, it is submitted that Applicants' invention as set forth in independent Claims 10, 15 and 16 is patentable over the cited art. In addition, dependent Claims 11-14 set forth additional features of Applicants' invention. Independent consideration of the dependent claims is respectfully requested.

Due consideration and prompt passage to issue are respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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